

CLAIMS

1 1. A multilayer hose comprising an inner layer surrounded by a first
2 layer of reinforcement material around which is formed a second layer of
3 reinforced material and over which is placed an outer cover, in which the two
4 reinforcement layers have an intermediate layer of elastomeric material applied as
5 a water-based emulsion.

1 2. A hose as claimed in Claim 1 wherein the intermediate layer has a
2 moisture content substantially in the range 0.5 to 1.5%.

1 3. A hose as claimed in Claim 2 wherein the moisture content is
2 substantially 1%.

1 4. A hose as claimed in Claim 1 wherein the intermediate layer
2 comprises a water based rubber.

1 5. A hose as claimed in Claim 4 wherein the intermediate layer
2 comprises a water based neoprene rubber.

1 6. A hose as claimed in Claim 1 wherein at least one of the said first
2 and second reinforcement layers comprises a layer of braided filamentary material.

1 7. A hose as claimed in Claim 1 wherein the said first and second
2 reinforcement layers comprise the same or similar material.

1 8. A hose as claimed in Claim 1 wherein the said inner layer and outer
2 cover comprise internal and external flexible resilient layers.

1 9. A hose as claimed in Claim 8 wherein the internal and external
2 flexible resilient layers comprise an elastomeric material.

1 10. A method of producing a multilayer hose of the type comprising
2 internal and external flexible resilient layers between which is located a
3 reinforcement layer, in which inner and outer reinforcement layers have an
4 intermediate bonding layer; the said method comprising the steps of:

5 providing a first reinforcement layer over the said internal flexible resilient
6 layer;

7 applying a water-based elastomeric emulsion over the said first
8 reinforcement layer to form an intermediate layer;

9 drying the said water-based emulsion to reduce the moisture content
10 thereof;

11 providing a second reinforcement layer over the said elastomeric layer and
12 subsequently curing the said elastomeric layer to bond the two reinforcement
13 layers together.

1 11. A method as claimed in Claim 10 wherein the said drying step
2 comprises the step of passing air over the said emulsion.

1 12. A method as claimed in Claim 10 wherein the moisture content of
2 the said intermediate layer is reduced to lie substantially in the range of 0.5 to
3 1.5% by weight in the drying step.

1 13. A method as claimed in Claim 10 wherein the said emulsion
2 comprises a water based rubber.

1 14. A method as claimed in Claim 13 wherein the said emulsion
2 comprises a water based neoprene rubber.

1 15. A method as claimed in Claim 10 wherein the step of applying the
2 said water based emulsion comprises the step of feeding the said internal resilient
3 layer and said first reinforcement layer into a reservoir of the said emulsion.

1 16. A method as claimed in Claim 10 wherein at least one of the said
2 first and second reinforcement layers comprises a layer of filamentary material
3 braided and the step of applying the said reinforcement layer(s) comprises the step
4 of braiding the said filamentary material over the surface of a respective adjacent
5 inner layer.

1 17. Apparatus for producing a multilayer hose having inner and outer
2 flexible resilient layers with two braided filamentary layers between them and an
3 intermediate water-based elastomeric emulsion bonding layer between the said
4 braided layers, the said apparatus comprising: a first braiding station, an
5 application station at which water-based elastomeric emulsion is applied, a drying
6 station at which moisture content of the said elastomeric bonding layer is reduced
7 to a pre-determined level, and a second braiding station at which a further
8 filamentary braided layer is formed over the intermediate layer.

1 18. Apparatus as claimed in Claim 17 wherein the said application
2 station comprises a reservoir for the said water based emulsion and means for
3 feeding the inner layers of the hose through the said emulsion.

1 19. Apparatus as claimed in Claim 17 wherein the said drying station
2 comprises air drying means for reducing the said moisture content from the said
3 intermediate layer.

1 20. Apparatus as claimed in Claim 18 wherein the said drying station
2 further comprises infrared drying means for further reducing the moisture content
3 from the said intermediate layer.